Promoting investment in small Caribbean states

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Contents

1. Introduction*

Creating a sound investment climate is vital for improving the economic performance of developing countries. It is a well established empirical regularity that economic growth is higher in countries that have higher investment rates (Levine and Renelt, 1992). Moreover, economic growth has been shown to reduce poverty, at least in the long run (Dollar and Kraay, 2002). Generating investment is thus an important factor in reducing poverty in developing countries, which underscores the need for identifying the key characteristics of a favourable investment climate.

The greater part of investment in developing countries is generated domestically, currently domestic investment (public and private) in developing countries totals about $1 trillion (World Bank, 2003, p. xiv). By comparison, foreign direct investment (FDI) flows to developing countries are at $160 billion. FDI flows have, however, been on a rapidly increasing trend in recent decades. Moreover, it is often argued that FDI can have a marked impact on productivity, by providing access to technological, managerial and organizational skills, or to other resources scarcely available in developing countries. Creating a favourable investment climate, is therefore a matter of providing both domestic and foreign sources of capital with a suitable environment.

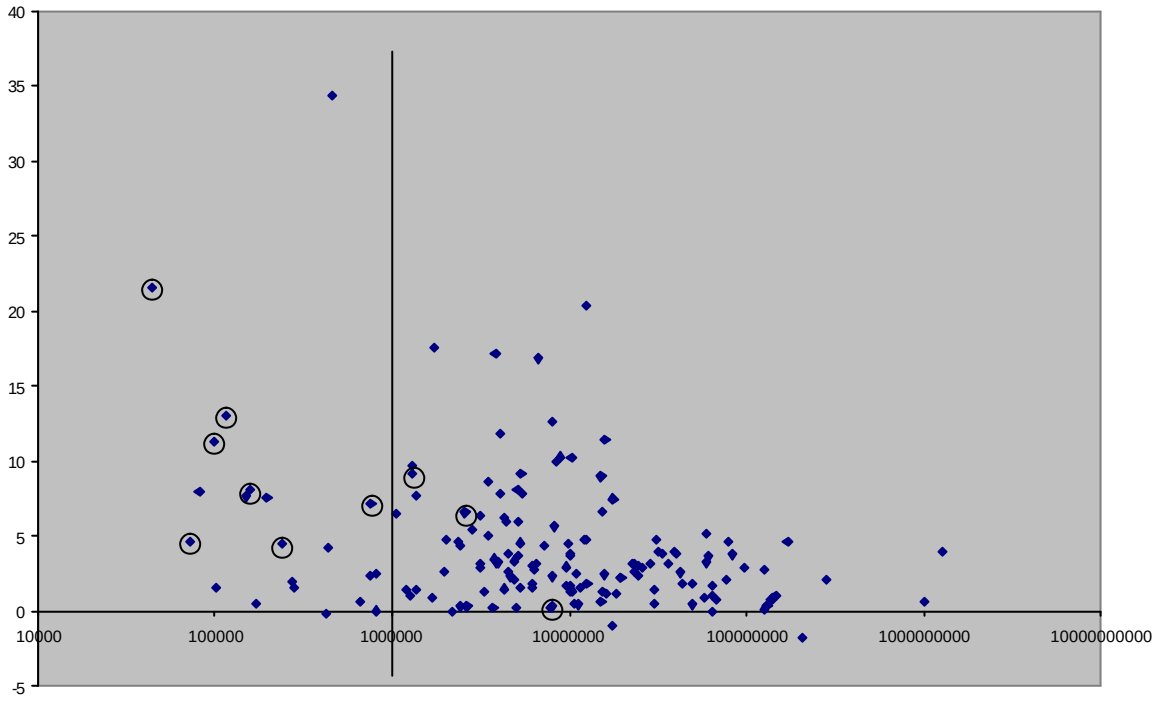
An overview of the literature on the determinants of domestic investment and FDI, reveals that there are similarities and differences in the factors that promote the two types of investment. For instance, Kolstad and Villanger (2004a) find that combating corruption increases domestic investment but has no effect on FDI, whereas political liberalization tends to increase FDI but decrease domestic investment. Where the determinants of the two types of investment coincide or at least do not conflict, delineating a suitable investment regime is fairly straightforward, where they do not, more careful tradeoffs must be made. Moreover, it is pertinent to point out that aggregate investment data only takes us so far in mapping the preconditions for investment. As revealed in Resmini (2000) and Kolstad and Villanger (2004b), determinants of FDI differ significantly between industries, which implies that investment policy is sometimes a question of which industries you want to attract.

Easterly and Kraay (2000) find that small states do not have different rates of economic growth than larger states. They do, however, find that the growth rate volatility of small states is greater than that of larger states. Consequently, they argue that small states should open up to international capital movements to diversify risk, which certainly provides a case for improving the climate for FDI. The influence of smallness on investment, has not been exposed to a similar analysis. Some FDI studies do include population size as an explanatory variable, for example, Choi (2003) finds population to be insignificant for FDI inflows. Similarly, several studies use regional dummy variables to capture differences between regions in generating investment. For instance, Asiedu (2002) finds that investment return, infrastructure and openness to trade have less of an impact on FDI in Sub-Saharan Africa than elsewhere. None of these studies seem to have used a dummy for the Caribbean countries, however. Against this backdrop, we take a closer look at the impact of smallness, and a Caribbean location, on domestic investment and FDI.

* This article is the result of a joint project with CICERO. The authors thank Gunnar Eskeland for constructive comments, and Denis Nikitin for assistance in compiling data.

The below figure presents FDI data for 152 countries, according to their population size. The score on the vertical axis is the FDI inflows as a percentage of GDP, averaged over the period 1998-2002. The score on the horizontal axis, is the population size, similarly averaged. There are 10 Caribbean countries for which data on FDI and population is available in the five-year period, these observations have been circled. The figure appears to provide us with two initial suggestions. Firstly, if we follow Easterly and Kraay (2000) in letting 1 million inhabitants be the dividing line between small and large states, there does not appear to be any great difference between small and large states in their ability to attract foreign investment. Secondly, Caribbean states do not appear to be at a disadvantage in attracting FDI. In fact, most Caribbean states do better in terms of FDI inflows than countries comparable in size. And regardless of size, all the Caribbean states except Haiti have FDI inflows above the world average.

Figure 1. FDI and population size

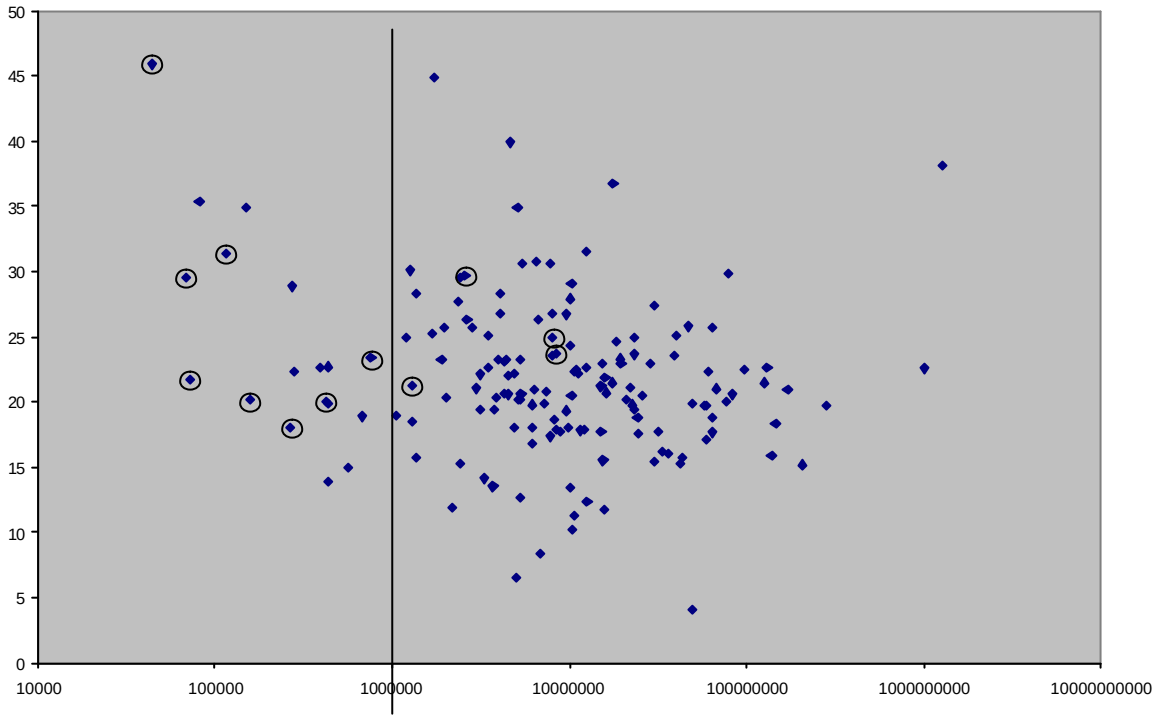


Easterly and Kraay (2000) suggest that the fact that small countries do not have lower growth rates than larger, is due to their greater openness, which offsets any negative factors. A similar explanation might be given for the apparent indifference of foreign direct investment to country size. Openness has been shown to be a highly robust determinant of FDI (Chakrabarti, 2001, Kolstad and Villanger, 2004a). Moreover, as suggested by Alesina (2003), small countries often have more homogeneous populations, which might increase stability, and reduce investment risk as perceived by investors. These factors might thus countervail any disadvantages of small states, such as a limited domestic market and other restrictions on the exploitation of economies of scale. As for the apparent attractiveness of Caribbean states to FDI, one explanation could be their proximity to major markets.

The following figure provides a similar representation of domestic investment and population size for 156 countries. Gross domestic investment as a percentage of GDP is measured on the

vertical axis, population on the horizontal, both averaged over the period 1998-2002. The 12 Caribbean states for which relevant data was available, have been circled. In the case of domestic investment, an initial observation is that states with less than 1 million inhabitants do not seem to have different investment rates than larger states. This observation is thus similar to the one made about FDI and population size. However, in terms of domestic investment, Caribbean states do not appear to do better or worse than other states. Of the 12 Caribbean states in the above figure, 7 have domestic investment rates above the world average. So there is no indication of a Caribbean-specific effect on domestic investment.

Figure 2. Domestic investment and population size



The above figures are merely suggestive, and the conclusions that can be drawn from them are limited. To get a better idea of whether and how size and a Caribbean location influences foreign direct and domestic investment, more rigorous econometric techniques must be employed. And though small states do not appear different in terms of the investment they generate, they might differ in the mechanisms through which they attract investment. In what follows, we will attempt to ascertain whether policies to attract investment have a different impact in small countries than in large, and in Caribbean states than in other states. The next section provides further motivation for a study of investment in small states, by relating FDI and domestic investment to economic growth.. This is followed by an overview of the relevant literature on the most important aspects of the investment climate. In subsequent sections, we present the result from an econometric study, which estimates the impact of population size and a Caribbean location on investment determinants.

2. The crucial role of investment in increasing economic growth

The standard theory of income growth takes labor, human and physical capital and technology as the main drivers of income changes. Thus, there exist a huge number of studies that assess the impact of these factors on economic growth. In recent times, there has been an increasing effort to complement the standard inputs of labor, capital and technology in the economic model with institutional factors. This has certainly been the case with macroeconomic growth models where rule of law, corruption, quality of governance, democracy and a range of other factors have been tested.

Leaving out the complex discussions of the convergence issue, i.e. the economic growth that stems from a country catching up from a level below its steady state, we can conclude from the very thorough work of Barro et al. (2004) that there is a consensus that the following policy areas are important to growth. For given values of GDP per capita, economic growth increases in the amount of human capital, the investment ratio, the quality of the rule of law, the degree of the country's openness to international markets. The factors that lead to reduced growth are high ratios of government consumption to GDP, high inflation rates and high fertility rates. Finally, it is found that favorable trends in terms of trade have a positive effect on growth.

It is important to emphasize that investment is one of the most important sources of economic growth. This is confirmed both from the theoretical growth models which predict that increased investment will lead to a period of higher economic growth, and from the empirical testing of these models. Since economic growth is an important factor in development, we focus on foreign direct investments and gross domestic investment in this study.

Based on the above theoretical underpinning and the empirical evidence, it is not very surprising that we find both FDI and domestic investment to be important determinants of economic growth in our sample. However, our data set does not contain enough information on the important human capital variables, and we also lack data on terms of trade. This lack of data discourages us from drawing broad conclusions from our growth regressions. However, our findings confirm the importance of the investment variables we use in this study, and their direct link to economic growth. We also find that the Caribbean countries have a lower growth on average after controlling for other factors. We tried to interact the Caribbean dummy with inflation, law, and trade to see if any of these areas could explain why the Caribbean countries lag behind with regards to growth rates. Neither of these variables were significant, so further research is warranted to explain this pattern. Table 1 gives an overview of our results in comparison to the stylized facts on the determinants of economic growth, while table A1 in the appendix gives the details.

Table 1. Summarizing the determinants of economic growth: The consensus in the literature and the results from our sample. + signifies a positive relationship, - signifies a negative relationship.

	Barro et al. (2004)	Our sample
Convergence	Yes	Yes
Human capital	+	+**
Investment ratio	+	
-FDI		+
-gross domestic investment		+
Rule of law	+	+
International openness	+	*
Government consumption	-	Insignificant
Inflation	-	-
Fertility rate	-	n.a.
Terms of trade	+	n.a.
Population size	Insignificant	Insignificant
Caribbean dummy	n.a.	-

**We used the sum of export and import measured as the share of GDP. This turned up insignificant in a range of specifications, and also negative in some of these regressions.*
***Using the secondary school enrolment rate reduced our sample substantially.*

Confirming the importance of foreign direct investments and gross domestic investment in economic growth and thus development, we now proceed to investigate the determinants of these two measures of capital.

3. A brief review of the investment literature

FDI and domestic investment have been the subjects of a number of econometric studies, which typically focus on a limited number of variables, and which vary greatly in their specification, methodology, and data sample. Simply adding up the results from these studies would imply that there are a number of significant determinants of each type of investment. As the results from each study might be sensitive to the variables included, and the data sample used, individual studies focusing on a limited number of explanatory variables do not, however, give us an impression of which variables would be robust to alternative specifications and assumptions. A few studies have, however, tested for robustness by means of Extreme Bounds Analysis (EBA) due to Leamer (1983). The EBA approach basically entails running regressions featuring all feasible combinations of the explanatory variables, and deeming those variables robust whose coefficients are consistently significant and consistently signed. Since this approach provides us some idea of which variables matter regardless of specification, and thus narrow the set of potential investment determinants substantially, we start the review of the literature on each type of investment, by focusing on studies employing the EBA approach. To the extent that the EBA studies exclude certain

variables that might be of importance for our study, we then add studies that have done less in terms of robustness testing. The focus is on public policy variables broadly conceived, including macroeconomic variables, infrastructure variables, and socio-political variables.

3.1 Studies of FDI

The only EBA analysis of aggregate FDI is due to Chakrabarti (2001).[1] In this study, the robustness of a limited number of variables is tested, and only in a limited number of combinations. The analysis reveals that only GDP per capita passes the EBA test, and can therefore be deemed robust. Ranking the remaining variables by the average likelihood that their coefficients fall in the positive/negative area, openness (trade as a percentage of GDP) is deemed the variable most likely to be correlated with FDI, followed by wages, net exports, GDP growth, taxes, tariffs, and the real exchange rate. The importance of GDP per capita (normally interpreted as market size or maturity) suggests that poorer countries can gain from regional integration. The importance of openness, implies that trade policy can be used to influence FDI flows. Other policy areas, like tax and exchange rate regimes, appear relatively unimportant. Chakrabarti's study does not directly address other macroeconomic variables, infrastructure, or socio-political variables, and we therefore turn to other available studies for evidence on these.

As for macroeconomic policies, the most common explanatory variables included are inflation and exchange rates. The evidence on inflation largely suggest that it does not matter for FDI. Urata and Kawai (2001), Asiedu (2002), Harms (2002), and Harms and Ursprung (2002) largely find inflation to be insignificant. The results on exchange rates vary, Singh and Jun (1995) find FDI to be negatively associated with the real exchange rate, whereas Urata and Kawai (2001) do not find a consistently significant relationship. Globerman and Shapiro (2002) and Kucera (2002) find no significant relationship between exchange rate volatility and FDI. Some studies do, however, suggest that exchange rates might influence FDI in certain industries (McCorriston and Sheldon, 1998, Moshiran, 1997).

A number of infrastructure variables have been tested as potential determinants of FDI, with mixed results. Biswas (2002) finds a positive relationship between telephones and electricity, and FDI. Harms (2002) finds a similar relationship for telephones. Choi (2003) estimates a significant relationship between the number of internet hosts and internet users and FDI inflows. On the other hand, Globerman and Shapiro (2002) find neither telephones, electricity, nor internet connections significant for FDI.

Several studies indicate that there is a relationship between FDI and broad indices of socio-political instability and institutional quality. Using an aggregate of the six governance indices due to Kaufmann et al (1999a,b), Globerman and Shapiro (2002) find a significantly positive relation between governance and FDI. Similar relationships have been uncovered for composite ICRG indices (Harms, 2002, Biswas, 2002, Habib and Zurawicki, 2002), and for BERI indices (Singh and Jun, 1995).[2] On the whole, socio-political factors do seem related to FDI. Studies using more disaggregate indices suggest that FDI is particularly influenced by corruption (Wei, 2000, Habib and Zurawicki, 2002) and internal conflict (Tuman and Emmert, 1999, Kolstad and Tøndel, 2002). Some studies find a positive relationship between political freedom and FDI (Harms and Ursprung, 2002, Kolstad and Tøndel, 2002, Kolstad and Villanger, 2004a), others find no significant relation between the two (Singh and Jun,

[1] For a study of service sector FDI employing EBA techniques, see Kolstad and Villanger (2004c).
[2] ICRG = International Country Risk Guide , BERI = Business Environment Risk Intelligence

1995, Noorbakhsh et al, 2001). Similarly, some studies find human capital formation important for FDI (Noorbakhsh et al, 2001, Globerman and Shapiro, 2002, Harms and Ursprung, 2002), wheras others do not (Wei, 2000, Kolstad and Tøndel, 2002).

In sum, the major policy variables for countries seeking to increase FDI inflows, appear to be regional integration (at least for poorer countries), trade openness, and socio-political governance with an emphasis on corruption, internal conflict, and possibly political freedom and human capital formation. As for macroeconomic governance and infrastructure development, available studies offer no clear conclusions.

3.2 Studies of domestic investment

Levine and Renelt (1992) perform an EBA analysis of domestic investment rates. A main result is that only two variables are robust to perturbations of the specification. Trade openness is consistently positively related to domestic investment. In addition, the number of revolutions and coups, has a negative relation to domestic investment. A number of other variables are not robust determinants of investment, these include initial GDP per capita, population growth, inflation, government consumption/expenditure/deficit, exchange-rate distortions, domestic credit growth, and secondary school enrolment. The study thus suggests that trade policy and political stability are vital for domestic investment, whereas the impact of a variety of macroeconomic policies is dubious, as is human capital formation.

Several other studies confirm the relationship between political instability and domestic investment (Brunetti and Weder, 1998, Bohn and Deacon, 2000). In addition, some studies suggest that institutional quality variables in the form of property rights and corruption affect investment (Knack and Keefer, 1995, Mauro, 1995, Campos et al, 1999). Studies exploring more complex relationships suggest that there is a link from inequality to instability, from instability to the security of property rights, and from property rights to investment (Alesina and Perotti, 1996, and Svensson, 1998). Various indices of democracy seem to be related to domestic investment (Bohn and Deacon, 2000, Pastor and Hilt, 1993), whereas political freedom does not seem important in itself (Ghura and Goodwin, 2000, Mlambo and Oshikoya, 2001). Knack and Keefer (1997) find a significant association between social capital and investment.

As noted by Reinikka and Svensson (2002), "the role of poor infrastructure .. has received relatively little attention in the economic literature". Some studies do find a significant effect of infrastructure on growth, however. Easterly and Levine (1997) find a positive relationship between the number of telephones per worker and growth, but see no impact of roads or electricity supply. However, in a study of microenterprises, Reinikka and Svensson (2002) find a significant relation between power provision and investment.

In sum, trade integration appears an important policy variable for domestic investment, as it was for FDI. Moreover, political stability appears conducive to domestic investment, as do clear property rights and limited corruption. Though there does seem to be a relation between democracy and domestic investment, it is not an entirely clear one. Available evidence suggests that macroeconomic policies do not have a substantial effect on domestic investment, nor do policies to promote human capital formation. The role of infrastructure development on domestic investment, must be explored further.

4. The determinants of foreign direct investment: Is the Caribbean different?

We conducted an econometric study of the determinants of FDI flows, based on panel data for 135 countries over the period 1980-2002. Our core sample consists of 2270 observations, where 182 of these are observations from 13 Caribbean countries during the panel period. The dependent variable is the ratio of net FDI inflows to GDP, which is a standard measure in the FDI literature (Asiedu 2002). First, we discuss the general mechanisms that seem to attract FDI to an average country. Then we proceed to investigate whether there are certain policies that would work differently in a Caribbean country compared to other countries.

4.1 General results

Since some of the previous studies of FDI suggest that areas with high economic growth attract more FDI, we include this variable to control for the pattern that investors seek towards areas that prosper in terms of economic activity. Similarly, FDI tend to be positively related to the GDP of a country, which reflects the FDI that aims towards producing for the host country market. i.e. market-seeking FDI. We therefore tested different measures of how rich a country is in order to control for this effect, both GDP, GDP per capita and GDP per capita in purchasing power parity and their logged values. All of these six measures are very unstable in our regressions, so we conclude in line with the existing literature that the size of the market is most likely positively related to FDI flows.

We tested a range of different governance policy variables that may be important for FDI. Our data provided us with detailed information on inflation, the total amount of debt (in percent of exports), trade, the percentage of the population living in urban areas and the size of the population. Since the quality of infrastructure may affect the investor's decision of where to invest, we also included a variable to proxy for infrastructure. Unfortunately, we lacked sufficient data for the best proxies for infrastructure important to investors, like kilometers of paved roads and railways. We did have information on telephone mainlines, but earlier research has pointed to the insufficiency of this measure as a proxy for infrastructure (Kolstad and Villanger 2004a). The proxy for which we have data is mobile phones, which turns up highly significant and positively related to FDI.

Based on the data availability of these variables, we used the above variables to construct two base specifications, one including total amount of debt (1668 observations) and one excluding this variable (2270 observations). The reason for operating with two samples is simply that we wanted to test how the amount of debt influences FDI. This, in turn, reduced the number of observations on the Caribbean countries making it more difficult to draw inference from the results for these countries. Initially, we started to investigate whether the higher inflow of FDI to Caribbean countries noted above would survive once we control for the factors that are supposed to affect FDI flows. As can be seen from the significance of the Caribbean dummy in table 2, model 1, we find that these countries attract more FDI than other, similar countries.

Table 2. Regression results. OLS regressions with logarithmic FDI/GDP as dependent variable.

	Model 1	Model 2
Growth	0.037***	0.036***
	(0.007)	(0.007)
Inflation	-0.064***	-0.060**
(logged)	(0.026)	(0.026)
Population size	-0.031**	-0.032**
(logged)	(0.024)	(0.024)
Mobil	0.002***	0.002***
	(0.001)	(0.001)
Urban	0.020***	0.020***
(% of population)	(0.002)	(0.002)
GDP per capita	-0.185*	-0.183*
(logged. PPP)	(0.065)	(0.065)
Trade	0.016***	0.015***
	(0.001)	(0.001)
Total Debt	-0.009***	-0.010***
(% of Export)	(0.003)	(0.003)
Caribbean	0.398***	
	(0.126)	
Inflation*		-0.036*
Caribbean		(0.074)
Trade*		0.004***
Caribbean		(0.001)
Constant	0.157	0.188
	(0.624)	(0.622)
Observations	1668	1668
R^2	0.31	0.31

standard errors in parentheses.
**** indicates significance at the 1% level, ** at 5%, * at 10%*

Note that total debt is found to discourage FDI flows, a finding that is significant in both models. This result is sustained in virtually all models we tested, and is also as expected from a theoretical point of view. It is straightforward to visualize how a country's debt burden may influence the foreign investors' perception of the attractiveness of channeling FDI to that country. Large debt burdens are to be repaid in the future, and one risk as seen from the investor's point of view, is an increase in taxes. Thus, a standard prediction would typically be that large debt burdens would, ceteris paribus, reduce the inflows of FDI to a country.

We also find that the larger trade as a share of GDP, the larger the inflow of FDI. This may be a result of the nature of some of the foreign direct investments. If the purpose of this investment is to produce for foreign markets, i.e. markets outside the country that hosts the FDI, then the investors will prefer countries that have less trade restrictions. These countries will also tend to have a higher share of trade to GDP. Further, we find that inflation is negatively related to inflows of FDI. Thus, high levels of inflation discourage investors. One caveat should be noted with respect to this result. There has been a debate on how inflation may have negative impacts on the economy, and it seems to emerge a consensus that only very high rates of inflation discourage investments. Thus, moderate or small levels of increases in price levels would probably not have negative impacts on the economy. Our results on inflation should be seen in this light, so the policy recommendation should be that governments should avoid high rates of inflation.

Note also the peculiar result that the larger the population size, the less inflows of FDI. However, this coefficient becomes insignificant once we add further explanatory variables.[3] Thus, our conclusion with regards to population size is that it does not matter to inflows of foreign direct investments, as indicated by figure 1. Finally, we found that the larger the share of the population living in urban areas, the larger the inflows of FDI. This result probably reflects the fact that a large share of the major economic activity, including the FDI, is situated in urban areas. Finally, we also tested life expectancy as a proxy for human capital. This reduced our sample substantially, down to 1200 observations, and it turned up insignificant in explaining FDI flows in this sub-sample.

4.2 Results and policies for Caribbean countries

One important question is to find out why these countries are better at attracting FDI than others, so that the policy makers can use this advantage to spur economic growth. We started out by testing whether the share of trade in percent of GDP had any particular impact of FDI for these countries. As can be seen from the interaction term between trade and the Caribbean dummy in table 2, model 2, it seems initially that trade openness is more important in attracting FDI in Caribbean countries compared to other countries. We computed interaction terms between the Caribbean dummy and all the other policy-relevant explanatory variables in the base specification, but only the trade-Caribbean interaction term and the Caribbean-inflation interaction-term remained significant. However, other explanations need to be checked before any conclusions are drawn.

The next step was to test the KKZ governance indices documented in Kaufman, Kray and Mastruzzi (2003). These indicators are based on several hundred individual variables measuring perceptions of governance collected in four time periods: 1996, 1998, 2000, and 2002. The information base is constructed from 25 separate data sources from 18 different organizations. These indices measure governance along the following six dimensions:

Voice and accountability: Focuses on the political process, civil liberties and political rights. Captures the extent to which citizens of a country take part in the decision process that leads to the selection of governments. This category also includes indicators measuring the independence of the media. Thus, we get in indicator of the quality of the monitoring of those in authority, and the degree to which the governors are held accountable for their actions.

Political instability and absence of violence: Measures perceptions of the likelihood that the government in power will be destabilized or overthrown by possibly unconstitutional and/or violent means, including domestic violence and terrorism.

Rule of law: Includes indicators of whether the inhabitants abide by the law, and whether they have confidence in the judicial system. Different measures of perceptions of the incidence of crime are included, as well as whether people believe the judiciary is effective and predictable, and the degree to which contracts can be enforced.

Government effectiveness: Measures responses on the quality of public service provision, the quality of the bureaucracy, the competence of civil servants, the independence of the civil service from political pressures, and the credibility of the government's commitment to policies.

[3] See tables 2 and table 3 below.

Controlling corruption: Indicates perceptions of corruption, which is defined as the exercise of public power for private gain. Note, however, that the different aspect of corruption measured by the various sources differs somewhat. They range from the frequency of "additional payments to get things done," to the effects of corruption on the business environment, to measuring "grand corruption" in the political arena or in the tendency of elite forms to engage in "state capture".

Regulatory quality: Focuses on the policies themselves. It includes measures of the incidence of market-unfriendly policies like price controls or inadequate bank supervision, as well as perceptions of the burdens imposed by excessive regulation in areas such as foreign trade and business development.

We take the average of four years as a proxy for each of the governance dimensions in the particular countries during the full sample period 1980-2002.

Our methodological approach takes the standard form found in the literature, but in addition to this, we also elaborate on the robustness of the estimates. Inspired by Levine and Renelt (1992), we test all feasible combinations of the policy variables in hand.[4] First, each of the KKZ variables were added individually to the base specification to see whether they picked up some of the variation. Second, we entered them in every feasible pair-wise combination, and then third, all combinations of three of the KKZ variables were tested. Fourth, we investigated all combinations of four of the variables, and finally, all five variables were included in the specification. The specification that emerges as robust by this procedure is given in table 3 for the sample where total debt is included as an explanatory variable.

[4] Note that our approach is not a complete extreme bounds test. First, we tested the robustness of the variables in our base specification by combining them in different econometric specifications. Second, we took this base specification as given and investigated how the sign and significance of the remaining policy variables changed in different models.

Table 3. Regression results. OLS regressions with logarithmic FDI/GDP as dependent variable.

	Model 3
Growth	0.042*** 0.007
Inflation (logged)	-0.057** 0.026
Population	0.019 0.025
Mobil	0.001*** 0.001
Urban	0.018*** 0.003
GDP per capita (PPP)	-0.223*** 0.072
Trade	0.018*** 0.001
Total Debt (% of exports)	-0.013*** 0.003
Trade*Caribbean	0.003*** 0.001
Law	-0.930*** 0.111
Regulatory quality	0.965*** 0.092
Stability	0.154*** 0.072
Constant	-0.509*** 0.672
Observations	1583
R^2	0.34

standard errors in parentheses.
**** indicates significance at the 1% level, ** at 5%, * at 10%*

However, in order to get more observations on the Caribbean countries, we excluded total debt and thus used the 2270 observation sample when exploring the interaction effects. The main results, emerging from the same procedure as explained for the 1668 sample, are given in table 4 below. The indices that enter significant in both samples are law, regulatory quality and stability. Note that the coefficient of the law index is negative, a result that may seem puzzling since FDI requires a certain juridical framework, like, for example, a bankruptcy act. However, after inquiring into this pattern, we find that the negative coefficient is most likely a result of multicolinearity. This implies that we are not able to provide firm conclusions on the impact of law on FDI from our results. The sign of the regulatory quality index and the stability index are as expected, both are positively related to inflows of FDI.

We also tested the ICRG index, which includes a wide range of measures of political risk like internal and external conflict, the stability of the government, the degree of military interference in politics, ethnic, religious and tensions. We found this index to be positively related to FDI. Again, there was no sign of any specific pattern for Caribbean countries and the policy recommendation is thus the same for these countries as for all others trying to attract FDI: Reducing political risk will probably increase the inflows of FDI. The ICRG results are reported in table A4 in the appendix.

Several other policy-variables of interest were also tested. We found that three different measures of government expenditures were insignificant in explaining FDI flows, whether this variable was measured as the share of GDP, in current local currency, or in current local currency logged.[5] The overall budget balance seems to have some impact, but is only significant at the 10 percent level. Moreover, we also lacked quite some data for this variable, so we were only able to check it when leaving other important explanatory variables out. Including total debt as an explanatory variable implies that the budget balance variable loses its significance, but this seems to be a result of reducing the sample from 1607 observations to 1145 observations.[6] Using the ICRG reduces the number of observations on the Caribbean countries from 182 to 70, which in itself should affect the significance of the Caribbean interaction terms.

Table 4. Regression results. OLS regressions with logarithmic FDI/GDP as dependent variable.

	Model 4	Model 5	Model 6
Growth	0.037***	0.036***	0.036***
	(0.006)	(0.006)	(0.006)
Inflation	-0.051**	-0.050**	-0.045**
	(0.022)	(0.022)	(0.022)
Population	0.014	0.022	0.029
	(0.021)	(0.021)	(0.022)
Mobil	0.002***	0.002***	0.002***
	(0.000)	(0.000)	(0.000)
Urban	0.013***	0.013***	0.013***
	(0.002)	(0.002)	(0.002)
GDP per capita (logged, PPP)	-0.231***	-0.212***	-0.216***
	(0.062)	(0.062)	(0.062)
Trade	0.018***	0.018***	0.018***
	(0.001)	(0.001)	(0.001)
Trade*Caribbean	0.003***	0.002	0.002
	(0.001)	(0.001)	(0.001)
Law	-0.868***	-0.883***	-0.888***
	(0.083)	(0.083)	(0.083)
Regulatory quality	0.977***	0.972***	0.997***
	(0.081)	(0.080)	(0.081)
Stability	0.168***	0.170***	0.162***
	(0.062)	(0.062)	(0.062)
Stability*Caribbean		0.670***	1.184***
		(0.249)	(0.363)
Regulation*Caribbean			-0.639**
			(0.329)
Constant	-0.433	-0.691	-0.794
	(0.565)	(0.573)	(0.575)
Observations	2178	2178	2178
R^2	0.32	0.32	0.32

standard errors in parentheses.
**** indicates significance at the 1% level, ** at 5%, * at 10%*

[5] See table A2, model 9, for one of the tested specifications.
[6] To test this, we ran model 8 on the 1145 observations-sample for which we have data on total debt. The result was that the overall budget balance variable was insignificant on this reduced sample, so the insignificance of this variable in model 9 is probably not a result of the inclusion of total debt variable, but a result of the change in sample.

When there are as few observations as we have on the Caribbean interaction terms, it is necessary to investigate whether there are particular pattern with some of the countries that explain these results, or whether these are findings representative for the Caribbean countries. The initial test was to exclude one of the 12 Caribbean countries, and then re-run model 6 on this sample. This test was performed for each of the 12 countries, and two interesting results emerged. First, none of the variables were changed significantly in any of these 12 regressions, except for the Caribbean-regulatory-index interaction term. This interaction term became insignificant in four of the regressions, namely when the Bahamas, Haiti, Jamaica or Grenada were excluded.

The fact that a few observations drive the regulatory-result implies that we cannot generalize from the significant coefficient from the full sample regressions. What we can say, however, is that policy makers interested in increasing FDI to the Bahamas, Haiti, Jamaica or Grenada should look further into this relationship in order to find the reason for this pattern. Moreover, if these countries were able to improve their regulatory framework so as to achieve a similar relationship between regulatory quality and FDI as an average country, then this would approximately lead to a tripling of the impact of improving the regulatory framework in these countries.[7]

The second-stage test was to exclude pairs of Caribbean countries to investigate whether two countries together may drive the results. Thus, all combinations of two countries were excluded and model 3 was run for each alternative sample. In addition to the obvious result that the four countries discussed above affects the significance of the Caribbean-regulatory-index interaction term in a similar pattern in this test, we find that the Caribbean-stability-index is affected by two country-pairs. This interaction term becomes insignificant if we exclude Haiti and Guyana, and also if Dominica and Grenada are jointly excluded.

Again, these findings imply that there is an extra effect of improving stability in Haiti, Guyana, Dominica and Grenada. Moreover, our estimates suggest that improving stability in these countries will have a tenfold increase in inflows of FDI compared to an average country. This may indicate that foreign investors will withdraw from countries that become unstable, but also that FDI may increase substantially in countries that go from severe instabilities and into a more stable state. We would probably get a more thorough understanding of this relationship by scrutinizing the track-record of FDI and stability of these four countries.

5. Domestic investment in small Caribbean states

To test whether smallness or a Caribbean location has any implications for domestic investment, we proceed in two steps. The first step consists of adding population size and a Caribbean dummy to a basic set of explanatory variables. This tells us whether smallness or a Caribbean location, constitute an advantage or disadvantage in and of itself. In the second step, we interact the population variable and the Caribbean dummy with other policy variables that affect investment. The results indicate whether investment in small or Caribbean countries is affected differently by the variables in question, as compared to other countries. In other words, the use of interaction variables tells us whether there is reason to give different policy advice to small or Caribbean countries, that that given to other countries.

[7] The true net impact is, of course, difficult to predict. Our suggestion is based on the difference between the coefficient of the Caribbean-regulatory-index interaction term when before and after omitting the countries that drives the result. The true difference is probably much higher since the lack of such a relationship for the other Caribbean countries attenuates this coefficient.

As our dependent variable, we use gross domestic investment in per cent of GDP, 1980-2002. To avoid limiting our data sample excessively, we have had to restrict our choice of explanatory variables. We include trade (exports plus imports as a percentage of GDP), and GDP per capita (PPP adjusted and logged), to test for the effects of trade and regional integration on domestic investment. We use inflation (logged) to test the effect of macroeconomic policies on investment. There are two infrastructure variables available to us with an adequate number of observations, mobile phones per 1000 people, and telephone mainlines per 1000 people. We include all six KKZ indices measuring voice, stability, effectiveness, regulation, rule of law, and corruption. Since observations for these indices are only available for selected years, we use the average of these. Finally, we include population size to capture the effect of smallness, and a Caribbean dummy. Restricting the data sample according to these variables, leaves us with in excess of 2500 observations, from 145 countries, 10 of which are Caribbean.

Using the Extreme Bounds Analysis approach, we ran OLS regressions featuring all combinations of our explanatory variables (though never more than one infrastructure variable or one KKZ index at a time). As it turns out, four variables are consistently significant and consistent in sign across all regressions in which they are included (see table 5). Domestic investment is higher in countries that trade more, that have higher GDP per capita levels, that are politically stable, and that have a greater population. Though our results establish correlation, and not causation, they at least suggest that pursuing trade and regional integration, and creating a stable environment, are relevant policy measures for any country seeking to boost investment. In addition, small countries are at a disadvantage in generating domestic investment, which makes performance on the other dimensions more important for these countries. More rigorous techniques thus reveal a correlation between population size and investment, which a casual inspection of figure 2 did not uncover.

We do not, however, find that Caribbean countries are different from other countries. As regression DI2 in table 5 shows, the Caribbean dummy is insignificant. Further analyses reveal that the Caribbean dummy is significant and positive in some combinations with other explanatory variables, but becomes insignificant whenever trade is added to the estimated equation. This suggests that if Caribbean countries do get more domestic investment than other countries, this is mainly due to greater trade flows. As for our other explanatory variables, neither inflation, nor the two infrastructure variables, nor the other KKZ indices, are consistently significant across specifications.

Table 5. Regression results. Dependent variable: Gross domestic investment/GDP (logged)

	DI1	DI2	DI3
Trade	0.056*** (0.003)	0.056*** (0.003)	0.065*** (0.004)
GDP/cap	0.478*** (0.164)	0.480*** (0.164)	0.198 (0.214)
Stability	0.675*** (0.206)	0.674*** (0.206)	0.641** (0.251)
Population	1.18E-08*** (1.09E-09)	1.18E-08*** (1.09E-09)	1.20E-08*** (1.20E-09)
Caribbean		0.281 (0.515)	
TaxRev/GDP			0.047*** (0.017)
Constant	13.255*** (1.39)	13.239*** (1.391)	14.358*** (1.800)
Obs	2584	2584	1935
Adj R2	0.1648	0.1646	0.1959

standard errors in parentheses.
**** indicates significance at the 1% level, ** at 5%, * at 10%*

For smaller data samples, we also tested the impact of literacy and school enrolment, which proved insignificant. The same is true for total debts as a percentage of GNI, government expenditure as a percentage of GDP, and the government budget balance. An attempt to include life expectancy, proved it to be highly correlated with GDP/capita, leading to problems of multicollinearity. As shown in column DI3, the revenue side of government does, however, appear to be linked to investment. We find a positive and significant relationship between tax revenues/GDP and investment, a relationship that is robust to the inclusion or exclusion of the other variables used above.[8] This result might indicate that an increase in public investment that follows from increased taxes, is greater than the decrease in private investment. However, if taxation is redistributive, the arguments of Alesina and Perotti (1996) suggest that the impact on private investment might even be positive. Note that the inclusion of tax revenues makes GDP per capita insignificant, which is partly due to the change in the sample.

To test whether the determinants of domestic investment, have a differential impact on investment if countries are small or Caribbean, we interacted population size and the Caribbean dummy with each of the three variables trade, GDP/capita, and stability. The results from adding these interaction variables to a base specification, is captured by table 6. As it turns out, several of these interaction variables are significant. More populous countries appear to see a greater effect of trade, GDP/capita, and stability, on investment (columns DI4-6 in table 6). However, a major problem in using interaction variables, is that they often have a high degree of correlation with the variables from which they are constructed, resulting in multincollinearity issues. Indeed, the interaction terms of population and trade, and of population and GDP/capita, have more than a 90% correlation with the population variable. A similar problem arises for the only significant interaction term constructured from the Caribbean dummy (column DI8 in table 6). The interaction between the dummy and GDP/capita, is almost perfectly correlated with the Caribbean dummy. This leaves us with

[8] There is not necessarily a contradiction between this result and the negative correlation of government expenditure and growth in table 1. The two variables in question are far from perfectly correlated in our sample.

only the interaction between population size and stability, which is not highly correlated with any individual variable. However, the significance of this interaction term is not robust to changes in the specification. For a smaller sample, we also tested the interaction of tax revenues, and population and the Caribbean dummy, none of which were significant. We thus cannot conclude that small or Caribbean countries are different in terms of the impact of the major investment determinants.

Table 6. Regression results, interacted variables. Dep. variable: Gross domestic investment/GDP (logged)

	DI4	DI5	DI6	DI7	DI8	DI9
Trade	0.054*** (0.003)	0.058*** (0.003)	0.058*** (0.003)	0.056*** (0.003)	0.057*** (0.003)	0.056*** (0.003)
GDP/cap	0.436*** (0.164)	0.359** (0.177)	0.453*** (0.164)	0.48*** (0.164)	0.544*** (0.164)	0.479*** (0.164)
Stability	0.763*** (0.206)	0.69*** (0.206)	0.475** (0.214)	0.674*** (0.206)	0.678*** (0.205)	0.677*** (0.207)
Population	1.4E-09 (2.56E-09)	1.23E-08 (1.34E-08)	1.26E-08*** (1.12E-09)	1.18E-08*** (1.09E-09)	1.19E-08*** (1.09E-09)	1.18E-08*** (1.09E-09)
Caribbean				0.089 (1.408)	33.097*** (7.229)	0.324 (0.568)
Popul*Trade	3.4E-10*** (7.57E-11)					
Popul*GDP/cap		3.14E-09* (1.74E-09)				
Popul*Stabil			7.47E-09*** (2.25E-09)			
Carib*Trade				0.002 (0.014)		
Carib*GDP/cap					-3.884*** (0.853)	
Carib*Stabil						-0.177 (0.985)
Constant	13.646*** (1.388)	14.082*** (1.463)	13.394*** (1.388)	13.246*** (1.392)	12.64*** (1.392)	13.236*** (1.391)
Obs	2584	2584	2584	2584	2584	2584
Adj R2	0.171	0.1656	0.1681	0.1643	0.171	0.1643

standard errors in parentheses.
**** indicates significance at the 1% level, ** at 5%, * at 10%*

To sum up, trade openness, integration with richer countries, and political stability appear to be the major policy implications for a country seeking to boost investment. This is largely in line with the findings of previous studies. There might also be a positive effect of tax revenues, but further study is needed to determine how this relationship works, before policy implication can be drawn. Smaller countries appear to be at a disadvantage in generating investment domestically, which makes pursuing the right kinds of policies all the more important. There is, however, little evidence to suggest that Caribbean countries generate more or less investment than other countries. Nor can we conclude from our analysis that small or Caribbean economies react differently to investment stimuli than other economies. In terms of generating domestic investment, small and Caribbean countries should receive the same policy advice as other countries.

6. A summary of policy implications

In the light of past studies, the preceding results provide the following policy advice to Caribbean policy makers seeking to increase investment in, and hence the growth prospectives of, their countries.

1. Investment, both foreign and domestic, is higher in countries that are open to international trade. Our results also suggest that Caribbean countries might see a greater effect of trade integration than other countries. Caribbean governments should therefore pursue regional trade arrangements, and actively support the WTO process of global trade liberalization.

2. Investment, both foreign and domestic, is higher in countries whose domestic markets are larger and more advanced. Regional integration to expand what is considered the domestic market, is thus beneficial.

3. Investment, both foreign and domestic, is higher in countries with greater political stability. To inspire confidence among investors, Caribbean countries should avoid major political disruptions, by pursuing inclusive and participatory policies. Our results suggest that investment is particularly responsive to stability issues in countries like Haiti, Guyana, Dominica, and Grenada.

4. Foreign investors are discouraged by bad macro-economic policies, poor infrastructure, and excessive regulation. Caribbean countries should avoid periods of high inflation and large debt burdens, and develop functional infrastructure and regulatory frameworks.

This general advice is based on analyses of the factors that move total investment flows. As noted earlier, investment in specific industries can be driven by different factors. Given the fact that FDI in the service industries accounts for more than 60% of total FDI flows, focusing on these industries is particularly relevant.

Kolstad and Villanger (2004c) conduct an analysis of the factors that determine FDI in services as a whole, and in four individual service industries (finance, business, transport, and trade). A major results is that while domestic market size influences FDI in services as a whole, and in each of the four industries, trade openness is insignificant across the board. For a country seeking to attract FDI in services, the implication would be that less of an emphasis on trade integration is needed, than the above general advice would indicate. The study further finds that FDI in certain producer service industries (finance and transport) depends on there being a foreign manufacturing base in the host country. Finally, though socio-political variables do not influence FDI as a whole, the institutional environment affects investment in certain sectors, particularly transport. Other service industries important for Caribbean countries, such as tourism and health services, are not analysed by the study. More research is therefore needed to determine how Caribbean countries can promote an expansion of these industries.

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Appendix

Table A 1. Regression results. OLS regressions with economic growth as dependent variable

Growth	Regression 1	Regression 2
GDP per capita	-0,0004*** (0,000)	-0,0004*** (0,000)
FDI/GDP	0,346*** (0,084)	0,262*** (0,099)
Law	1,157*** (0,271)	1,262*** (0,303)
Trade	-0,020*** (0,004)	-0,021*** (0,005)
Inflation (logged)	-0,751*** (0,088)	-0,680*** (0,107)
Gross domestic investment	0,134*** (0,017)	0,145*** (0,020)
Caribbean	-1,066*** (0,421)	-1,577*** (0,503)
Government expenditures (logged)	0,061** (0,032)	-0,015 (0,036)
Total Debt (% of export)	-0,021** (0,010)	-0,019* (0,012)
Budget balance		0,180*** (0,033)
Constant	3,587*** (1,006)	5,653 (1,183)
Observations	1638	1201
R^2	0.12	0.14

standard errors in parentheses.
**** indicates significance at the 1% level, ** at 5%, * at 10%*

Table A 2. Regression results. OLS regressions with logarithmic FDI/GDP as dependent variable

	Model 8	Model 9	Model 10
Growth	0,027***	0,034***	0,035***
	(0,007)	(0,008)	(0,008)
Inflation (logged)	-0,072***	-0,118***	-0,125***
	(0,027)	(0,032)	(0,032)
Mobil	0,003***	0,002**	0,002**
	(0,000)	(0,001)	(0,001)
Urban	0,011***	0,014***	0,014***
	(0,002)	(0,003)	(0,003)
GDP per capita (logged, PPP)	-0,036	0,052	0,037
	(0,077)	(0,092)	(0,093)
Trade	0,018***	0,019***	0,019***
	(0,001)	(0,001)	(0,001)
Trade*Caribbean	0,003	0,004*	0,004*
	(0,002)	(0,002)	(0,002)
Law	-0,852***	-0,727***	-0,755***
	(0,095)	(0,132)	(0,134)
Regulation	1,012***	0,889***	0,916***
	(0,093)	(0,109)	(0,110)
Stability	-0,030	-0,086	-0,073
	(0,074)	(0,088)	(0,090)
Stability *Caribbean	2,376***	1,889***	1,916***
	(0,746)	(0,774)	(0,776)
Regulation*Caribbean	-1,849***	-1,271**	-1,318**
	(0,616)	(0,646)	(0,650)
Overall budget balance (incl. grants)	0,014*	-0,001	-0,003
	(0,008)	(0,010)	(0,010)
Total debt (% of export)		-0,008**	-0,008***
		(0,003)	(0,003)
Government expenditures (current currency, logged)			0,013
			(0,011)
Constant	-1,671***	-2,315***	-2,505
	(0,567)	(0,672)	(0,722)
Observations	1607	1145	1136
# Caribbean obs.	111	105	105
R^2	0.33	0.37	0.38

standard errors in parentheses.
**** indicates significance at the 1% level, ** at 5%, * at 10%*

Table A 3. Regression results. OLS regressions with logarithmic FDI/GDP as dependent variable. Using country average of ICRG

	Model 11
Growth	0,039***
	(0,009)
Inflation (logged)	-0,113***
	(0,034)
Mobil	0,002**
	(0,001)
Urban	0,014***
	(0,003)
GDP per capita (logged, PPP)	-0,077
	(0,114)
Trade	0,018***
	(0,002)
Trade*Caribbean	0,013
	(0,010)
Law	-0,665***
	(0,139)
Regulation	0,922***
	(0,114)
Stability	-0,114
	(0,107)
Stability *Caribbean	6,661
	(6,266)
Regulation*Caribbean	-5,296
	(4,927)
Overall budget balance (incl. Grants)	-0,015
	(0,010)
Total debt (% of export)	-0,007**
	(0,003)
Government expenditures (current currency, logged)	0,015
	(0,011)
ICRG (country average)	0,020*
	(0,012)
Constant	-2,886***
	(0,802)
Observations	1005
# Caribbean obs.	61
R	0.36

standard errors in parentheses.
**** indicates significance at the 1% level, ** at 5%, * at 10%*

Table A 4. Descriptive statistics, FDI regressions

Variable	Observ.	Mean	Std. Dev.	Min	Max
FDI/GDP (logged)	2270	0.115	1.549	-7.634	6.427
Growth	2270	3.223	4.636	-34.859	38.855
Inflation (logged)	2270	2.081	1.415	-4.191	9.372
Population (logged)	2270	15.911	1.855	10.621	20.964
Total debt (% of exports)	1668	18.691	13.940	0.018	117.808
Mobil	2270	50.704	142.819	0.000	1060.538
Urban	2270	51.370	22.866	4.34	100
GDP per capita (logged. PPP)	2270	8.338	1.068	6.037	10.900
Trade	2270	72.756	37.342	6.320	272.445
Stability	2178	0.100	0.870	-2.240	1.64
Regulation	2270	0.227	0.766	-1.830	1.688
Law	2270	0.157	0.958	-1.435	2.165
Effectiveness	2270	0.139	0.928	-1.385	2.23
Voice	2270	0.194	0.891	-1.685	1.613
Corruption	2270	0.138	1.001	-1.148	2.39
Stability*Caribbean	2178	0.011	0.127	-0.903	0.653
Regulation*Caribbean	2270	0.009	0.128	-1.050	0.998
Law*Caribbean	2270	-0.002	0.142	-1.353	1.048
Effectiveness*Caribbean	2270	-0.019	0.149	-1.353	0.953
Voice*Caribbean	2270	0.056	0.245	-0.748	1.185
Corruption*Caribbean	2270	-0.006	0.122	-1.123	0.813

Table A 5. Correlation matrix for the 2178 observations sample used in table 4

	FDI/ GDP	Growth	Inflation (logged)	Population (logged)	Mobil	Urban	GDP per capita (logged, PPP)
FDI/GDP	1.00						
Growth	0.12	1.00					
Inflation (logged)	-0.12	-0.21	1.00				
Population (logged)	-0.25	-0.01	0.12	1.00			
Mobil	0.22	-0.02	-0.27	-0.01	1.00		
Urban	0.15	-0.12	-0.10	0.02	0.32	1.00	
GDP per capita (logged, PPP)	0.12	-0.05	-0.25	-0.01	0.42	0.81	1.00
Trade	0.45	0.05	-0.12	-0.55	0.14	0.05	0.12
Law	0.08	0.01	-0.35	-0.03	0.37	0.63	0.83
Regulation	0.17	0.00	-0.28	0.00	0.35	0.65	0.79
Stability	0.17	0.00	-0.29	-0.21	0.31	0.54	0.69
Stability* Caribbean	0.16	0.03	-0.11	-0.31	-0.01	0.10	0.06
Regulation* Caribbean	0.11	0.02	-0.01	-0.12	0.01	0.11	0.08
	Trade	Law	Regulation	Stability	Stability* Caribbean	Regulation* Caribbean	
Trade	1.00						
Law	0.11	1.00					
Regulation	0.06	0.89	1.00				
Stability	0.26	0.84	0.76	1.00			
Stability* Caribbean	0.17	0.10	0.10	0.14	1.00		
Regulation* Caribbean	0.12	0.11	0.15	0.10	0.74	1.00	

Table A 6. Correlation matrix for the 1668 observations sample used in tables 2 and 3

	FDI/GDP	Growth	Inflation (logged)	Population (logged)	Mobil phones	Urban	GDP per capita (logged, PPP
FDI/GDP	1.00						
Growth	0.13	1.00					
Inflation	-0.14	-0.24	1.00				
Population	-0.28	0.02	0.21	1.00			
Mobil	0.22	-0.01	-0.19	-0.01	1.00		
Urban	0.23	-0.13	0.13	-0.04	0.28	1.00	
GDP per capita (logged, PPP)	0.22	-0.03	0.00	-0.13	0.34	0.74	1.00
Trade	0.47	0.04	-0.16	-0.55	0.23	0.07	0.23
Law	0.17	0.10	-0.17	-0.19	0.23	0.36	0.57
Regulation	0.25	0.04	-0.08	-0.08	0.26	0.46	0.56
Stability	0.28	0.04	-0.14	-0.38	0.20	0.34	0.43
Stability* Caribbean	0.18	0.03	-0.15	-0.35	0.01	0.15	0.14
Regulation* Caribbean	0.14	0.01	-0.02	-0.12	0.05	0.15	0.13
Total debt (% of exports)	-0.24	-0.10	0.20	0.32	-0.02	0.14	0.02
	Trade	Law	Regulation	Stability	Stability* Caribbean	Regulation* Caribbean	Total debt (% of exports)
Trade	1.00						
Law	0.30	1.00					
Regulation	0.11	0.74	1.00				
Stability	0.40	0.72	0.55	1.00			
Stability* Caribbean	0.17	0.24	0.17	0.22	1.00		
Regulation* Caribbean	0.11	0.22	0.24	0.15	0.70	1.00	
Total debt (% of exports)	-0.41	-0.07	0.11	-0.21	-0.09	-0.01	1.00

Table A 7. The importance of the ICRG index. No trace of a separate Caribbean effect from improvements on the ICRG index. Dependent variable: FDI/GDP (logged)

	Model 12
Growth	0.024***
	(0.008)
Inflation	0.055**
	(0.027)
Population (logged)	0.029
	(0.026)
Mobil	0.001***
	(0.000)
Urban	0.014***
	(0.003)
GDP per capita (logged, PPP)	-0.560***
	(0.075)
Trade	0.017***
	(0.001)
Trade*Caribbean	0.006
	(0.009)
Law	-0.802***
	(0.095)
Regulation	1.065***
	(0.094)
Stability	0.000
	(0.074)
Stability*Caribbean	6.842
	(5.883)
Regulation*Caribbean	-5.014
	(4.626)
ICRG	0.040***
	(0.005)
ICRG*Caribbean	0.008
	(0.006)
Constant	-0.650
	(0.656)
Observations	1571
R^2	0.35

standard errors in parentheses.
**** indicates significance at the 1% level, ** at 5%, * at 10%*

Table A 8: Descriptive statistics, domestic investment regressions

Variable	Obs	Mean	Std. Dev.	Min	Max
Dom.inv./GDP (logged)	2584	21.929	7.082	-0.691	60.099
Trade/GDP	2584	74.053	41.707	6.320	296.016
GDP per cap (logged,PPP)	2584	8.369	1.097	6.037	10.900
Inflation (logged)	2584	2.154	1.458	-4.191	9.372
Taxrevenue/GDP	1935	19.292	10.806	0.000	102.751
Mobil	2584	50.172	142.603	0.000	1060.538
Telephones	2584	157.136	191.412	0.189	796.823
Voice	2584	0.157	0.915	-1.685	1.613
Stability	2584	0.089	0.897	-2.393	1.640
Effectiveness	2584	0.159	0.951	-1.770	2.230
Regulation	2584	0.229	0.800	-2.388	1.688
Law	2584	0.179	0.975	-1.820	2.165
Corruption	2584	0.152	1.013	-1.563	2.390
Population	2584	3.68E+07	1.20E+08	72000	1.27E+09
Caribbean dummy	2584	0.067	0.251	0.000	1.000
Trade*Caribbean	2584	6.637	26.553	0.000	213.328
GDPcap*Caribbean	2584	0.569	2.124	0.000	9.668
Stability*Caribbean	2584	0.017	0.145	-0.903	0.810
Trade*Population	2584	1.53E+09	4.00E+09	7140619	6.19E+10
GDPcap*Population	2584	3.00E+08	9.27E+08	585087	1.05E+10
Stability*Population	2584	-4581746	6.35E+07	-5.45E+08	3.21E+08

Table A 9. Correlation matrix, domestic investment regressions, 2584 observations

	Dom.inv./ GDP (logged)	Trade/GDP	GDP per cap (logged,PPP)	Inflation (logged)	Mobil	Tele-phones	Voice
Dom.inv./GDP (logged)	1						
Trade/GDP	0.3295	1					
GDP per cap (logged,PPP)	0.1985	0.2308	1				
Inflation (logged)	-0.0791	-0.1685	-0.2961	1			
Mobil	0.0062	0.1666	0.4039	-0.2709	1		
Telephones	0.078	0.1937	0.8345	-0.357	0.5429	1	
Voice	0.1444	0.165	0.7473	-0.2706	0.3173	0.7418	1
Stability	0.2304	0.3223	0.7065	-0.3314	0.291	0.6899	0.8222
Effectiveness	0.1566	0.2007	0.8307	-0.3672	0.3547	0.8281	0.8286
Regulation	0.1435	0.1787	0.7782	-0.3186	0.3281	0.721	0.8481
Law	0.1726	0.2192	0.8371	-0.3857	0.3551	0.8237	0.8365
Corruption	0.1312	0.1894	0.8279	-0.3617	0.3596	0.844	0.8274
Population	0.1106	-0.2379	-0.0632	-0.0083	-0.0292	-0.0528	-0.0831
Caribbean dummy	0.0524	0.1579	0.0209	-0.0794	-0.055	-0.0408	0.1431
Trade*Caribbean	0.0812	0.2325	0.0364	-0.0967	-0.0491	-0.0211	0.1792
GDPcap*Caribbean	0.0497	0.1631	0.0306	-0.0832	-0.0541	-0.0336	0.1513
Stability*Caribbean	0.0708	0.1704	0.1001	-0.113	-0.0205	0.0634	0.2086
Trade*Population	0.1546	-0.1521	-0.0473	-0.0189	-0.0019	-0.0418	-0.1289
GDPcap*Population	0.1135	-0.2478	-0.0262	-0.0174	-0.0159	-0.0194	-0.0595
Stability*Population	0.0928	0.077	0.3142	-0.1505	0.1223	0.3164	0.255
	Stability	Effective-ness	Regulation	Law	Corruption	Population	Caribbean
Stability	1						
Effectiveness	0.8293	1					
Regulation	0.7839	0.8967	1				
Law	0.8435	0.9654	0.8828	1			
Corruption	0.8181	0.9653	0.8565	0.9709	1		
Population	-0.0727	-0.0057	-0.0556	-0.0285	-0.0491	1	
Caribbean dummy	0.0486	-0.0742	-0.0175	-0.0469	-0.0442	-0.0773	1
Trade*Caribbean	0.0713	-0.0398	0.0099	-0.0103	-0.0145	-0.0735	0.9304
GDPcap*Caribbean	0.0561	-0.0603	-0.0072	-0.0364	-0.0333	-0.0773	0.9975
Stability*Caribbean	0.1528	0.1077	0.1182	0.1194	0.11	-0.0376	0.4325
Trade*Population	-0.0758	-0.006	-0.0594	-0.0478	-0.0654	0.9045	-0.0934
GDPcap*Population	-0.0518	0.0221	-0.0293	-0.0015	-0.0224	0.996	-0.0817
Stability*Population	0.4007	0.3191	0.3071	0.3154	0.3233	-0.2161	0.0172
	Trade* Caribbean	GDPcap* Caribbean	Stability* Caribbean	Trade* Population	GDPcap* Population	Stability* Population	
Trade*Caribbean	1						
GDPcap*Caribbean	0.9368	1					
Stability*Caribbean	0.5628	0.4784	1				
Trade*Population	-0.0887	-0.0935	-0.046	1			
GDPcap*Population	-0.0776	-0.0817	-0.0395	0.9099	1		
Stability*Population	0.0176	0.0175	0.0138	-0.0667	-0.1658	1	

Table A 10. Correlation matrix, domestic investment regressions, 1935 observations

	Dom.inv./ GDP (logged)	Trade/GDP	GDP per cap (logged,PPP)	Stability	Population	Taxrevenue/ GDP
Dom.inv./GDP (logged)	1					
Trade/GDP	0.37	1				
GDP per cap (logged,PPP)	0.1854	0.1959	1			
Stability	0.2493	0.3357	0.7545	1		
Population	0.092	-0.2646	-0.0894	-0.0909	1	
Taxrevenue/GDP	0.2252	0.3443	0.539	0.5337	-0.1636	1

Summary

This study performs an econometric analysis to determine the main policy levers for investment promotion in the Caribbean. The results provide the following policy advice to Caribbean policy makers seeking to increase investment in, and hence the growth prospectives of, their countries.

1. Investment, both foreign and domestic, is higher in countries that are open to international trade. Our results also suggest that Caribbean countries might see a greater effect of trade integration than other countries. Caribbean governments should therefore pursue regional trade arrangements, and actively support the WTO process of global trade liberalization.

2. Investment, both foreign and domestic, is higher in countries whose domestic markets are larger and more advanced. Regional integration to expand what is considered the domestic market, is thus beneficial.

3. Investment, both foreign and domestic, is higher in countries with greater political stability. To inspire confidence among investors, Caribbean countries should avoid major political disruptions, by pursuing inclusive and participatory policies. Our results suggest that investment is particularly responsive to stability issues in countries like Haiti, Guyana, Dominica, and Grenada.

4. Foreign investors are discouraged by bad macro-economic policies, poor infrastructure, and excessive regulation. Caribbean countries should avoid periods of high inflation and large debt burdens, and develop functional infrastructure and regulatory frameworks.

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